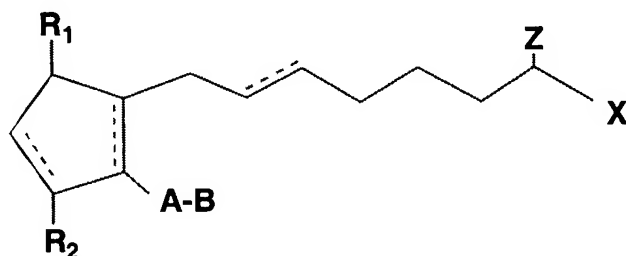


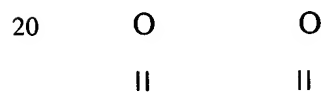
Claims

I claim:

1. A method of imparting an artificial tan to the skin of a human which comprises administering to said human a pharmaceutical composition comprising an effective amount of a compound represented by formula I



- wherein the dashed bonds represent a single or double bond which can be in the cis or trans configuration, A is an alkylene or alkenylene radical having from two to six carbon atoms, which radical may be interrupted by one or more oxa radicals and substituted with one or more hydroxy, oxo, alkyloxy or alkylcarboxy groups wherein said alkyl radical comprises from one to six carbon atoms; B is a cycloalkyl radical having from three to seven carbon atoms, or an aryl radical, selected from the group consisting of hydrocarbyl aryl and heteroaryl radicals having from four to ten carbon atoms wherein the heteroatom is selected from the group consisting of nitrogen, oxygen and sulfur atoms; X is $-N(R^4)_2$ wherein R^4 is selected from the group consisting of hydrogen, a lower alkyl radical having from one to six carbon atoms,

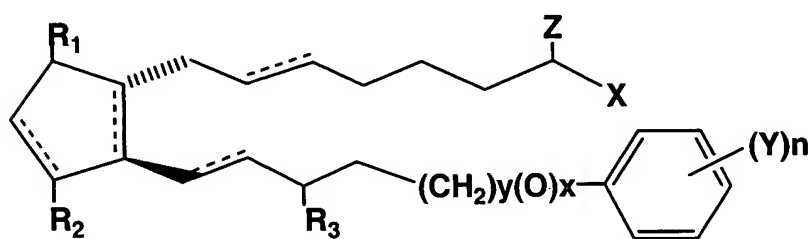


R^5-C- and R^5-O-C- , wherein R^5 is a lower alkyl radical having from one to six carbon atoms; Z is $=O$; one of R_1 and R_2 is $=O$, $-OH$ or a $-O(CO)R_6$ group, and the other one is $-OH$ or $-O(CO)R_6$, or R_1 is $=O$ and R_2 is H , wherein R_6 is a saturated

or unsaturated acyclic hydrocarbon group having from 1 to about 20 carbon atoms,
 or $-(CH_2)_mR_7$ wherein m is 0 or an integer of from 1 to 10, and R_7 is cycloalkyl
 radical, having from three to seven carbon atoms, or a hydrocarbyl aryl or
 heteroaryl radical, as defined above or a pharmacologically acceptable acid
 5 addition salt thereof.

2. The method of claim 1 wherein the concentration of the compound applied is
 from 0.0000001% to 50% by weight of the composition.

10 3. The method of claim 1 wherein the compound is a compound of formula III

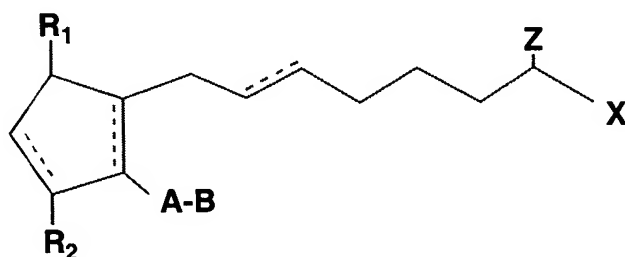


wherein y is 0 or 1, x is 0 or 1 and x and y are not both 1, Y is a radical selected
 from the group consisting of alkyl, halo, nitro, amino, thiol, hydroxy, alkyloxy,
 alkylcarboxy, halo substituted alkyl wherein said alkyl radical comprises from one
 15 to six carbon atoms, n is 0 or an integer of from 1 to about 3 and R_3 is $=O$, $-OH$ or $-$
 $O(CO)R_6$ wherein R_6 , hatched lines indicate α configuration and solid triangles are
 used to indicate β configuration.

4. The method of claim 3 wherein the compound is bimatoprost or a
 20 pharmaceutically acceptable salt thereof.

5. The method of claim 1 wherein the compound of formula I is applied
 systemically.

6. The method of claim 1 wherein the compound of formula I is applied topically.
7. The method of claim 1 wherein the compound of formula I is applied by aerosol.
8. The method of claim 1 wherein the compound of formula I is applied as a cream.
9. The method of claim 1 wherein the compound of formula I is applied as a lotion.
10. The method of claim 1 wherein the compound of formula I is applied as a solution.
11. A method for providing both an artificial tan to human skin and protecting human skin from the effects of ultraviolet radiation which comprises administering to human skin a pharmaceutical composition comprising an effective amount of a compound represented by formula I



wherein the dashed bonds represent a single or double bond which can be in the cis or trans configuration, A is an alkylene or alkenylene radical having from two to six carbon atoms, which radical may be interrupted by one or more oxa radicals and substituted with one or more hydroxy, oxo, alkyloxy or alkylcarboxy groups wherein

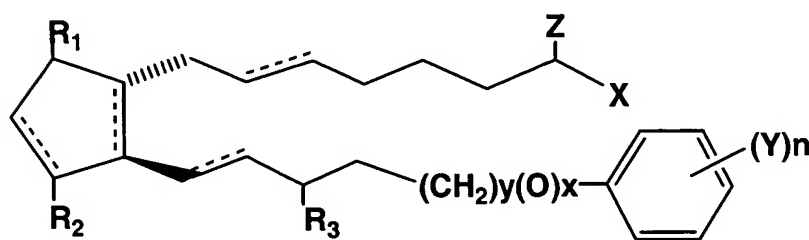
said alkyl radical comprises from one to six carbon atoms; B is a cycloalkyl radical having from three to seven carbon atoms, or an aryl radical, selected from the group consisting of hydrocarbyl aryl and heteroaryl radicals having from four to ten carbon atoms wherein the heteroatom is selected from the group consisting of nitrogen, oxygen and sulfur atoms; X is $-N(R^4)_2$ wherein R^4 is selected from the group consisting of hydrogen, a lower alkyl radical having from one to six carbon atoms,



R^5-C- and R^5-O-C- , wherein R^5 is a lower alkyl radical having from one to six carbon atoms; Z is $=O$; one of R_1 and R_2 is $=O$, $-OH$ or a $-O(CO)R_6$ group, and the other one is $-OH$ or $-O(CO)R_6$, or R_1 is $=O$ and R_2 is H, wherein R_6 is a saturated or unsaturated acyclic hydrocarbon group having from 1 to about 20 carbon atoms, or $-(CH_2)_mR_7$ wherein m is 0 or an integer of from 1 to 10, and R_7 is cycloalkyl radical, having from three to seven carbon atoms, or a hydrocarbyl aryl or heteroaryl radical, as defined above or a pharmacologically acceptable acid addition salt thereof.

12. The method of claim 11 wherein the concentration of the compound applied is from 0.0000001% to 50% by weight of the composition.

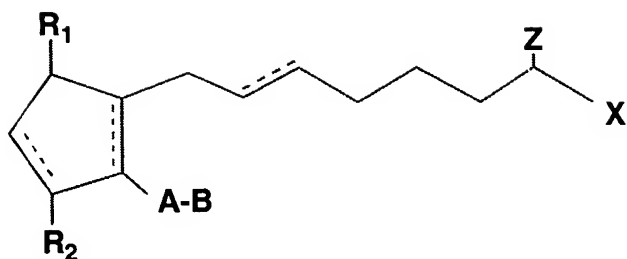
13. The method of claim 11 wherein the compound is a compound of formula III



wherein y is 0 or 1, x is 0 or 1 and x and y are not both 1, Y is a radical selected from the group consisting of alkyl, halo, nitro, amino, thiol, hydroxy, alkyloxy, alkylcarboxy, halo substituted alkyl wherein said alkyl radical comprises from one

to six carbon atoms, n is 0 or an integer of from 1 to about 3 and R₃ is =O, -OH or -O(CO)R₆ wherein R₆, hatched lines indicate α configuration and solid triangles are used to indicate β configuration.

- 5 14. The method of claim 13 wherein the compound is bimatoprost or a pharmaceutically acceptable salt thereof.
15. The method of claim 11 wherein the compound of formula I is applied systemically.
- 10 16. The method of claim 11 wherein the compound of formula I is applied topically.
- 15 17. The method of claim 11 wherein the compound of formula I is applied by aerosol.
18. The method of claim 11 wherein the compound of formula I is applied as a cream.
- 20 19. The method of claim 11 wherein the compound of formula I is applied as a lotion.
20. The method of claim 1 wherein the compound of formula I is applied as a solution.
- 25 21. An artificial tanning composition for providing both an artificial tan to human skin and protecting human skin from the effects of ultraviolet radiation which comprises a pharmaceutical composition comprising an effective amount of a compound represented by formula I



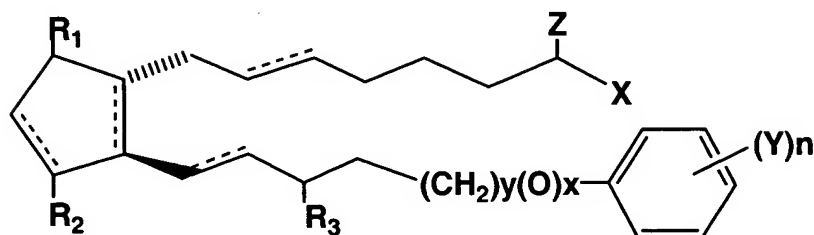
wherein the dashed bonds represent a single or double bond which can be in the cis or trans configuration, A is an alkylene or alkenylene radical having from two to six carbon atoms, which radical may be interrupted by one or more oxa radicals and substituted with one or more hydroxy, oxo, alkyloxy or alkylcarboxy groups wherein
 5 said alkyl radical comprises from one to six carbon atoms; B is a cycloalkyl radical having from three to seven carbon atoms, or an aryl radical, selected from the group consisting of hydrocarbyl aryl and heteroaryl radicals having from four to ten carbon atoms wherein the heteroatom is selected from the group consisting of nitrogen,
 10 oxygen and sulfur atoms; X is -N(R⁴)₂ wherein R⁴ is selected from the group consisting of hydrogen, a lower alkyl radical having from one to six carbon atoms,



R⁵-C- and R⁵-O-C--, wherein R⁵ is a lower alkyl radical having from one to six carbon atoms; Z is =O; one of R₁ and R₂ is =O, -OH or a -O(CO)R₆ group, and the
 15 other one is -OH or -O(CO)R₆, or R₁ is =O and R₂ is H, wherein R₆ is a saturated or unsaturated acyclic hydrocarbon group having from 1 to about 20 carbon atoms, or -(CH₂)_mR₇ wherein m is 0 or an integer of from 1 to 10, and R₇ is cycloalkyl radical, having from three to seven carbon atoms, or a hydrocarbyl aryl or
 20 heteroaryl radical, as defined above or a pharmacologically acceptable acid addition salt thereof and a sunscreen.

22. The composition of claim 21 wherein the concentration of said compound is from 0.0000001% to 50% by weight of the composition.

23. The composition of claim 21 wherein the compound is a compound of formula III



- 5 wherein y is 0 or 1, x is 0 or 1 and x and y are not both 1, Y is a radical selected from the group consisting of alkyl, halo, nitro, amino, thiol, hydroxy, alkyloxy, alkylcarboxy, halo substituted alkyl wherein said alkyl radical comprises from one to six carbon atoms, n is 0 or an integer of from 1 to about 3 and R₃ is =O, -OH or -O(CO)R₆ wherein R₆, hatched lines indicate α configuration and solid triangles are
10 used to indicate β configuration.

24. The composition of claim 23 wherein said compound is bimatoprost or a pharmaceutically acceptable salt thereof.

- 15 25. The composition of claim 21 wherein said sunscreen is selected from the group consisting of ethylhexyl p-methoxycinnamate, octocrylene, octylsalicylate, oxybenzone and titanium dioxide.

26. The composition of claim 24 wherein said sunscreen is selected from the
20 group consisting of ethylhexyl p-methoxycinnamate, octocrylene, octylsalicylate, oxybenzone and titanium dioxide.